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ABSTRACT

This report summarizes a 1989 update of a 1986 survey on the diffusion and utilization of audiovisual media and equipment in Japan. A comparison of the two reveals the advancements in types of audiovisual equipment available to schools and social education facilities in Japan which have developed in only 3 years. An outline of the equipment questionnaire and the utilization questionnaire reveals an average 95% response rate, or a combined total of 21,273 responses. Analyses of the responses revealed that schools are better equipped than social education facilities, with diffusion rates differing according to the technology: 16-mm projectors, slide projectors, still cameras, overhead projectors, radios, televisions, video cameras, videotape recorders, audiotape recorders, and record players. Diffusion rates are also presented according to facility: kindergartens, elementary schools, junior high schools, senior high schools, public halls, prefectural libraries, municipal libraries, youth nature centers, youth houses (residential), youth houses (non-residential), and women's education centers. Utilization findings indicated that audiotape recorders and television were used in schools, while 16-mm movie projectors and audiotape recorders were used in social education facilities. Additionally, the use of microcomputers was shown to have increased at all levels. Data are also reported for teacher utilization, degree of utilization, utilization by subject matter or courses, and participation in training courses. A discussion of the local production of instructional materials concludes the report. (9 figures; 12 tables) (DB)

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AUDIOVISUAL EQUIPMENT IN EDUCATIONAL FACILITIES TODAY

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Audiovisual Equipment in Educational Facilities Today

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Forward

This pamphlet summarizes the update of a previous survey on the diffusion and utilization of audiovisual media and aids in Japan. The earlier survey was completed in 1986, and an outline of its results was published by this association in November 1987. Comparing the two makes it possible to see the great advancements in types of audiovisual equipment available to schools and social education facilities in Japan which have come about in these three short years.

As before, it is hoped that this publication will also prove to be of value to scholars and others in the field, both within and outside Japan.

October 1990

Jiro Arimitsu, President
Japan Audiovisual Education Association

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Introduction

The following summarizes the results of a 1989 Ministry of Education, Science and Culture questionnaire titled "A Survey of the Situation regarding Audiovisual and Related Equipment in Schools and Social Education Facilities." These surveys are conducted every three years both to help understand the situation regarding the availability and utilization of audiovisual equipment and aids in schools and social education facilities and to also provide data for use as reference materials in the development of future policies. While the current survey is a continuation of the one conducted in 1986, it is also unique in that, in comparison to the previous this 1989 questionnaire also includes data on video projectors and other types of new media and equipment.

I. Outline

A. Replies

1. Equipment Questionnaire

A total of 10,703 valid replies for the questionnaire on equipment were returned, this represents 96.3% of the total number of questionnaires distributed.

Table 1

Breakdown of Replies on Equipment Diffusion Rates

Institution	Number of Questionnaires Mailed	Percentage of Valid Replies
Kindergartens	639	98.1%
Elementary Schools	2,420	98.8
Junior High Schools	1,140	99.2
Senior High Schools	798	97.5
Public Halls	3,190	94.8
Prefectural Libraries	67	92.5
Municipal Libraries	1,628	93.3
Museums	489	95.7
Children's Nature Centers	195	97.4
Youth Houses (Residential)	245	90.2
Youth Houses (Non-res'tial)	140	93.6
Children's Culture Centers	51	100.0
Women's Education Centers	116	95.7
Total	11,118	96.3%

2. Utilization Questionnaire

A total of 10,570 valid questionnaires on utilization were returned, this was 95.1% of the total number distributed.

Table 2
Breakdown of Replies on Utilization

Institution	Number of Questionnaires Mailed	Percentage of Valid Replies
Kindergartens	639	97.2%
Elementary Schools	2,420	98.3
Junior High Schools	1,140	98.9
Senior High Schools	798	96.6
Public Halls	3,190	93.1
Prefectural Libraries	67	91.1
Municipal Libraries	1,628	91.4
Museums	489	94.7
Children's Nature Centers	195	94.9
Youth Houses (Residential)	245	88.6
Youth Houses (Non-res'tial)	140	90.7
Children's Culture Centers	51	100.0
Women's Education Centers	116	94.8
Total	11,118	95.1%

II. Results

A. The Current Situation regarding Equipment

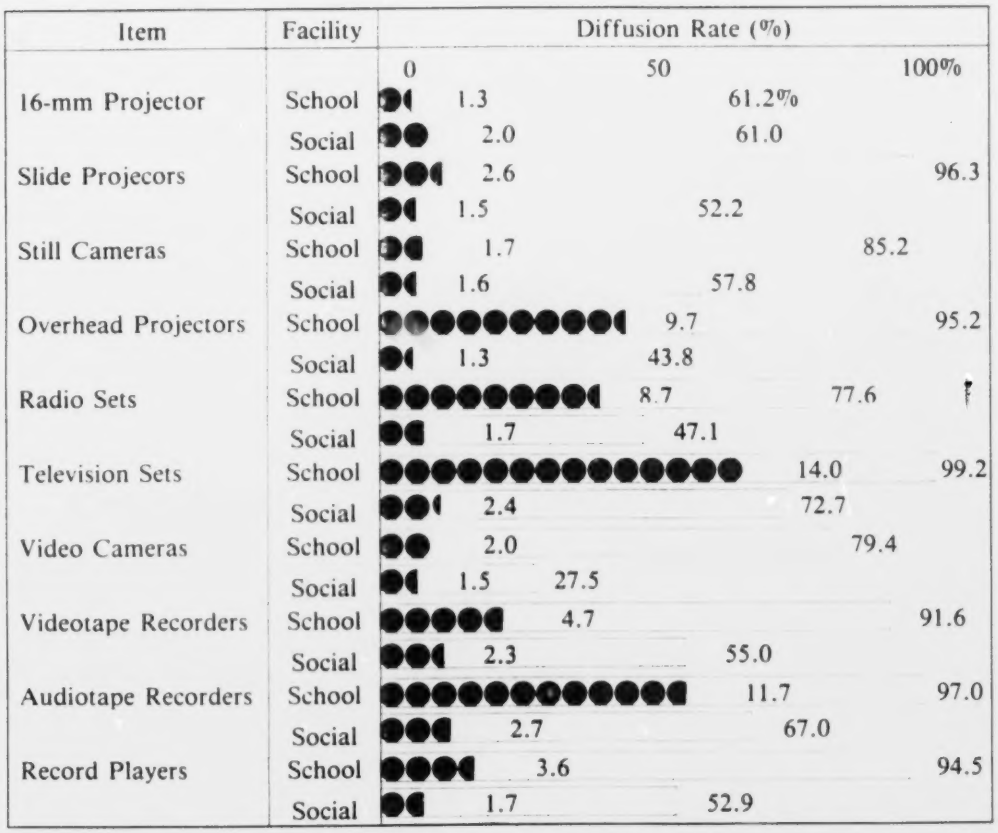
1. Major Findings

a. Summary

Figure 1 lists, separately by schools and social education facilities, the results for those items inluded in the questionnaire which were more relatively available. As shown here, schools are much better equipped than are social education facilities.

Figure 1

Diffusion Rates for Major Items of Audiovisual Education Equipment in School and Social Education Facilities

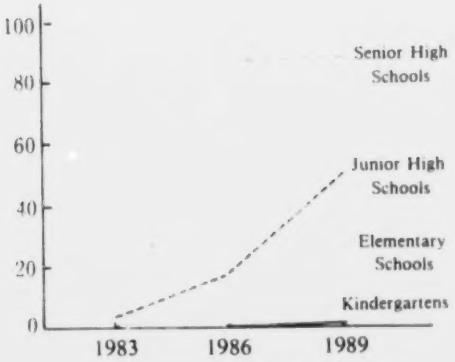


Note: Bars show diffusion rates, dots the average quantity per facility for facilities which have such equipment (1 dot = 1 unit).

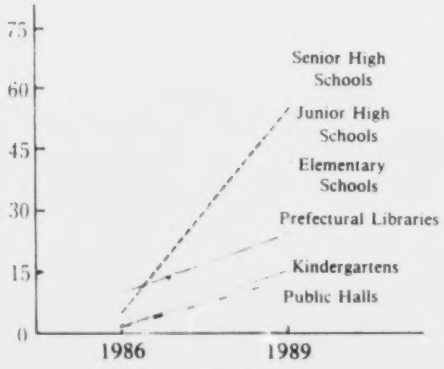
Compared to the previous survey (as of May 1, 1986), a great deal of progress has been made in the providing of microcomputers and other types of new equipment. In particular, increases in availability can be seen for microcomputers, compact disk players and videodisk players. Figure 2 graphically outlines the rates of increase for these three types of equipment.

Figure 2

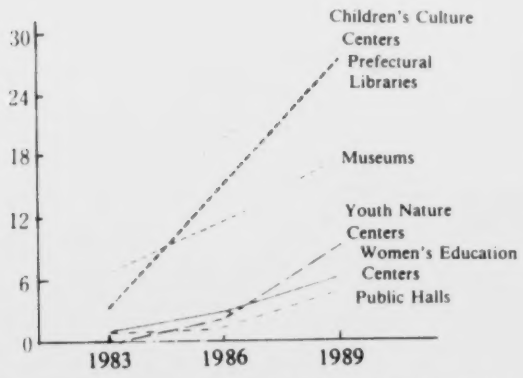
Increases in the Availability of Certain Types of Equipment in Schools and social Education Facilities



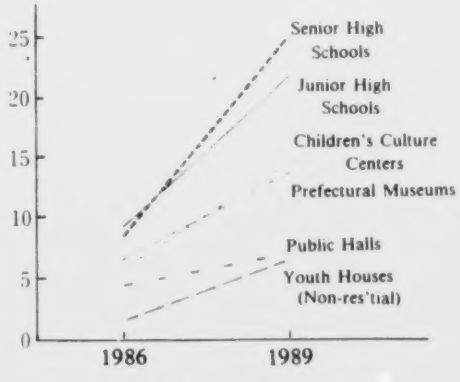
Microcomputers in Schools



Compact Disk Players



Microcomputers in Social Education Facilities



Compact Disk Players

b. Diffusion in the Schools

1) Audiovisual education equipment in the schools with availability rates of 90% or greater includes television sets (99%), audiotape recorders (97%), slide projectors (96%), building-wide public address systems (96%), overhead projectors (95%), record players (94%) and videotape recorders (92%).

2) As far as quantity is concerned, television is highest with an average of 14.0 sets per school (all figures are averages for those facilities with that type of equipment). This is followed by audiotape recorders (11.7), microcomputers (11.5), overhead projectors (9.7) and radio sets (8.7).

3) A comparison with the results of the previous survey shows that the following items of equipment increased by 10 percentage points or more: compact disk players (37 points), microcomputers (17 points), and video cameras (11 points). Similarly, those types of equipment for which the average number of items available per facility increased by a full unit included microcmputers (1.7 units), videotape recorders (cassette) (1.6 units), and audiotape recorders (cassette) (1.6 units).

4) In relation to video cameras, for which the diffusion rate increased by 11 points, both the availability rate and the average number of units per facility with video cameras increased: senior high schools (89%. 2.4 units), junior high schools (87%, 1.9 units), elementary schools (88% 2.0 units) and kindergartens (23%, 1.1 units). The diffusion rates for television, an item which is closely related to the use of video cameras, were highest in the elementary schools (59%), followed by junior high schools (32%), senior high schools (5%) and kindergartens (4%), in that order.

5) For the microcomputer, a more recent item of equipment, the diffusion rate was highest in the senior high schools (87%, 24.2 units). This was followed by junior high schools (51%, 5.2 units), elementary schools (24%, 3.1 units) and kindergartens (1%, 1.2 units). Of these, the fastest diffusion rate growth was the 33 point increase seen at the junior high school level while the greatest increase in number of units for facilities

with microcomputers was the average increase of 11.6 units seen in the senior high schools.

At the time of the previous survey, the diffusion rates for compact disk players were less than 10%, but for this survey there were increases in both diffusion rates and units per facility: senior high schools (58%, 1.4 units), junior high schools (51%, 1.4 units), elemenary schools (38%, 1.6 units) and kindergartens (14%, 1.4 units).

The difusion rates for videotape recorders were also below 10% at the time of the previous survey, but for this survey the greatest increase in both diffusion and in average number of units was seen at the elementary school level. Results were senior high schools (24%, 1.5 units), junior high schools (21%, 1.4 units) and elementary schools (12%, 1.5 units).

Newly added items for this survey included video projectors and video editing equipment. While the overall rate of diffusion for both of these items is rather low, the rate at the senior high school level did increase by approximately 20%.

c. Diffusion in social education facilities.

1) The highest diffusion rate found for social education facilities was television sets (73%). This was followed by audiotape recorders (61%), 16-mm movie projectors (61%), building-wide public address systems (58%) and still cameras (58%).

2) By number of units per facility for facilities having such equipment, the highest rate was for microcomputers (3.1 units). This was followed by audiotape recorders (2.7 units), language laboratories (2.6 units), music laboratories (2.5 units) and television sets (2.4 units).

3) Using the results of the previous survey to look at changes in diffusion rates reveals that the only item with an increase of over 10 percentage points was the compact disk player (12 points). Furthermore, for the social education facilities, none of the types of audiovisual equipment covered in this survey showed a full unit inrease in the number of units per

facility with such equipment.

4) Regarding the newer types of audiovisual equipment covered in this survey, the greatest increase was seen for microcomputers in children's culture centers (28%, 6.4 units). This was followed by prefectural libraries (26%, 1.8 units) and museums (27%, 7.3 units). Of these, the greatest change seen in diffusion rate between the previous surbvey and this one was the 12 point increase found for prefecutral libraries. Also, the average number of microcomputers per facility increased by 1.3 units.

While in the previous survey the diffusion rates for compact disk players were below 10%, this time a general increase was seen, with increases of 10 points or more being found for public halls, libraries, youth houses, and women's education centers. The best equipped of these were the prefectural libraries which had a diffusion rate of 23% and an average of 2.4 units per facility.

At the time of the previous survey, the diffusion rate for videodisk players was also below 10%. A overall increase has been under way ever since and today the rate for prefectural museums is 13% (3.6 units), for municipal libraries 10% (2.9 units), for museums 13% (4.9 units) and for children's cultural centers 14% (1.1 units).

The diffusion rates for video projectors and video editing equipment, items which had been added to the survey for the first time in 1989, were seen as being rather low in general.

2. Diffusion Rates

The following outlines the diffusion rates for various types of audiovisual equipment in the facilities surveyed.

a. Overall Diffusion Rates

Table 3 gives the diffusion rates, for both schools and social education facilities, for those types of equipment with diffusion rates of 50% or over. For this table, minor variations in equipment type such as color or black and white, or open reel or cassette have been grouped together. Acording

to this table, the diffusion of television sets is quite high for both schools and social education facilities (schools 99%; social education 73%]; this is followed by the audiotape recorder (schools 97%. social education 67%). These results are about the same as those from the previous survey.

Table 3
Audiovisual Education Equipment
with High Rates of Diffusion

Type of Equipment	Number of Schools Mailed	Social Edutation Facilities
	%	units
16mm Movie Projectors	61.2	61.0
8mm Movie Projectors	51.4	
Slide Projectors	96.3	52.2
Still Cameras	85.2	52.2
Overhead Projectors	95.2	
Transparency Copier	57.7	
Radio Sets	77.6	
Record Players	94.5	52.9
Building wide PA Systems	96.2	57.8
Television Sets	99.2	72.7
Video Cameras	79.4	
Videotape Recorders	91.6	55.0
Audiotape Recorders	97.0	67.0
Number of Valid Replies	4,927	5,776

b. Diffusion Rates by Facility

The following is a list of the five most common items of equipment

for each type of facility surveyed.

1) Kindergartens: Television sets (98%), Audiotape recorders (94%), Still cameras (88%), Slide projectors (88%), Record players (86%).

2) Elementary Schools: Television sets (100%), Overhead pojectors (99%), Audiotape recorders (98%), Building wide public address systems (98%), Slide projectors (97%).

3) Junior High Schools: Television sets (100%), Overhead projectors (99%), Building-wide public address systems (99%), Videotape recorders (98%), Audiotape recorders (97%).

4) Senior High Schools: Television sets (99%), Videotape recorders (99%), Slide projectors (98%), Overhead projectors (97%), Audiotape recorders (97%).

5) Public Halls: Television sets (89%), 16mm Movie projectors (81%), Audiotape recorders (78%), Still cameras (73%), Record players (71%).

6) Prefectural Libraries: Audiotape recorders (74%), Cameras (68%), Television sets (66%), Slide projectors (58%), Videotape recorders (55%).

7) Municipal Libraries: Audiotape recorders (48%), Building wide public address systems (40%), Television sets (39%), Radio sets (32%),16mm Movie projectors (30%).

8) Museums: Television sets (67%), Cameras (65%), Building wide public address systems (58%), Audiotape recorders (58%), Slide projectors (58%).

9) Children's Nature Centers: Building wide public address systems (88%), Television sets (88%), Slide projectors (81%), Still cameras (80%), 16mm Movie projectors (77%).

10) Youth Houses (Residential): Television sets (84%), Building-wide public address systems (73%), Audiotape recorders (68%), Record players (64%), 16mm Movie projectors (63%).

11) Youth Houses (Non-residential): Television sets (79%), Building

wide public address systems (69%), Audiotape recorders (67%), Record players (60%), Still cameras (57%).

12) Children's Culture Centers: Audiotape recorders (61%), Building wide public address systems (61%), Still cameras (59%), 16mm Movie projectors (57%), Television sets (57%).

13) Women's Education Centers: Television sets (61%), Still cameras (59%), Building wide public address systems (41%), Cameras (45%), Record players (40%).

3. Average Number of Units for Facilities So-equipped

The following, by types of audiovisual education equipment, is an outline of the number of units on hand in those facilities which have such equipment on hand.

a. Overall Patterns in Number of Items per Facility

Table 4 lists, for both schools and social education facilities, those types of audiovisual education equipment for which two or more units are available. For this table, subdivisions of types of equipment such as color or black and white or open reel or cassette, etc., have been combined.

Television sets (14 units) are the item most commonly found in the schools. These are followed by audiotape recorders (11.7 units) and microcomputers (11.5 units). For social education facilities, microcomputers (3.1 units) are in the majority, and are followed by audiotape recorders (2.7 units) and language laboratories (2.6 units). On the other hand, the diffusion rates in social education facilities for microcomputers (7.3%) as well as for language laboratories (0.3%) are quite low in comparison to other types of equipment.

b. Number of Units by Facility

The following, based upon the number of units owned, lists the five most common items of equipment in each type of facility surveyed. However, equipment with a diffusion rate of less than 10% have been

excluded. (Figures in parenthesis indicate average number of said item per facility with such equipment),

1) Kindergartens: Audiotape recorders (4.2), Television sets (3.9), Radio sets (3.7), Record players (3.5), Videotape recorders (1.8).

Table 4
Items of Audiovisual Equipment for
which Two or More Units Are Available

Type of Equipment	Schools	Social Edutation Facilities
	units	units
16mm Movie Projectors		2.0 (61.0)
Slide Projectors	2.6 (96.3)	
Overhead Projectors	9.7 (95.2)	
Radio Sets	8.7 (77.6)	
Video Projectors	2.1 (15.7)	
Sheet Recorders	6.8 (3.6)	
Record Players	3.6 (94.5)	
Videodisk Playrs		2.3 (8.2)
Microcomputers	11.5 (37.2)	3.1 (7.3)
Response Analyzers	2.4 (9.8)	
Language Laboratories	4.7 (9.2)	2.6 (0.3)
Music Laboratories	2.7 (2.1)	2.5 (0.5)
Television Sets	14.0 (99.2)	2.4 (72.7)
Video Cameras	2.0 (79.4)	
Videotape Recorders	4.7 (91.6)	2.3 (55.0)
Audiotape Recorders	11.7 (97.0)	2.7 (67.0)
Number of Valid Replies	4,927	5,776

Note: Figures in parenthesis are diffusion rates.

2) Elementary Schools: Television sets (18.7), Overhead pojectors (12.2), Audiotape recorders (11.8), Radio sets (9.8), Record players (4.5).

3) Junior High Schools: Television sets (12.5), Audiotape recorders (11.4), Overhead projectors (10.6), Radio sets (9.8), Videotape recorders (5.2).

4) Senior High Schools: Microcomputers (24.2), Audiotape recorders (17.7), Television sets (9.9), Radio sets (9.5), Videotape recorders (7.3).

5) Public Halls: Television sets (2.3), Audiotape recorders (2.3), Videotape recorders (2.0), 16mm Movie projectors (41.9), Record players (1.6).

6) Prefectural Libraries: Audiotape recorders (4.9), Videotape recorders (4.3), 16mm Movie projectors (4.0), Television sets (3.7), Videotape recorders (3.6).

7) Municipal Libraries: Audiotape recorders (3.5), Videotape recorders (3.1), Videodisk players (2.9), 16mm Movie projectors (2.7), Compact disk players (2.4).

8) Museums: Microcomputers (7.3), Videodisk players (4.9), Cameras (3.5), Television sets (3.4), Videotape recorders (3.2).

9) Children's Nature Centers: Television sets (3.5), Audiotape recorders (3.0), Radio sets (2.3), Record players (2.0), Videotape recorders (1.8).

10) Youth Houses (Residential): Television sets (2.6), Audiotape recorders (2.6), Radio sets (2.1), Record players (2.0), Videotape recorders (1.6).

11) Youth Houses (Non-residential): Audiotape recorders (2.7), Radio sets (2.3), Television sets (2.1), Record players (1.8), Compact disk players (1.6).

12) Children's Culture Centers: Microcomputers (6.4), Videotape recorders (4.5), Audiotape recorders (2.5), Slide projectors (2.3), 16mm Movie projectors (2.2).

13) Women's Education Centers: Tape recorders (2.6), Television sets (2.5), Videotape recorders (2.3), Radio sets (2.0), 16-mm Movie projectors (1.5).

4. Trends in the Providing of Equipment

a. Diffusion Rates

Table 5 lists those items of audiovisual education equipment which between the previous and the current surveys showed a 10 point or greater increase in diffusion rates.

Audiovisual education equipment in schools with an oerall increase of 10 points or more included compact disk recorders (37 points), microcom-

Table 5

Comparison with the Results of the 1986 Survey

(Increases)

Type of Facility	Types of Equipment	Diffusion Rate 1986	Diffuseion Rate 1989	Increase
Kindergartens	Videotape Recorders (Cas'te)	27.3%	51.4%	24.1
	Compact Disk Players	0.8	13.9	13.1
	Video Cameras	9.4	22.5	13.1
Elementary Schools	Compact Disk Players	2.5	38.2	35.7
	Microcomputers	4.3	24.1	19.8
	Video Cameras	75.1	87.8	12.7
Junior High Schools	Videodisk Players	9.0	20.9	11.9
	Compact Disk Players	4.1	50.8	46.7
	Microcomputers	17.6	50.5	32.9
	Video Cameras	75.7	86.7	11.0
Senior High Schools	Videodisk Players	8.3	23.8	15.5
	Compact Disk Players	9.7	58.1	48.4
Public Halls	Compact Disk Players	1.7	11.9	10.1
Prefectural Libraries	Television Sets (Color)	46.9	66.1	19.2
	Videotape Recorders (Cas'te)	39.1	53.2	14.1
	Compact Disk Players	9.4	22.6	13.2
	Microcomputers	14.1	25.8	11.7
Municipal Libraries	Compact Disk Players	4.9	21.6	16.7
Youth Nature Centers	Videotape Recorders (Cas'te)	45.4	60.0	14.6
Youth Houses (Residential)	Videotape Recorders (Cas'te)	41.7	57.9	16.2
	Compact Disk Players	0.9	13.6	12.7
Youth Houses (Non-res'tial)	Videotape Recorders (Cas'te)	33.9	46.6	12.7
	Compact Disk Players	2.6	13.7	11.1
	Video Cameras	11.3	21.4	10.1
Women's Education Centers	Compact Disk Recorders	0.0	11.7	11.7

puters (17 points), and video cameras (11 points), the greatest increase being seen for the compact disk recorder. The greatest increases in diffusion rates by school levels were: compact disk recorders at the senior high school level — 48 points (9.7% to 58.1%), microcomputers at the junior high school — 33 points (17.6% to 50.5%) and video cameras at the kindergarten level — 13 points (9.4% to 22.5%).

For social education facilities, compact disk players were the only item of audiovisual education equipment with an overall increase of 10 or more points. By facility, the greatest increase was for municipal libraries — 17 points (4.9% to 21.6%).

For social education facilities, compact disk players were the only item of audiovisual education equipment with an overall increase of 10 or more points. By facility, the greatest increase was for municipal libraries — 17 points (4.9% to 21.6%).

On the other hand, Table 6 lists those items of audiovisual equipment for which the diffusion rates dropped by 10 percentage points or more. The greatest decreases, both in schools and in social education facilities, were for radio sets.

b. Average Number of Items in Facilities Possessing Such Equipment

Table 7 lists those items for which the average number of units or more per facility possessing such equipment increased by one or more units between the previous survey (as of May 1, 1986) and the present one (as of May 1, 1989).

Overall, in schools, those items of audiovisual education equipment for which the average number of units per school increased by one or more units included microcomputers (1.7), videotape recorders (cassette) (1.6) and audiotape recorders (cassette) (1.6). Of these, the greatest increase was seen in the senior high schools for microcomputers which increased by 11.6 units (12.6 to 24.2), videotape recorders (cassette) which increased by 2.1 units (4.8 to 6.9), audiotape recorders (cassette) which also increased by 2.1 units (14.5 to 16.6) and in the elementary schools again for audio-

Table 6

Comparison with the Results of the 1986 Survey (Decreases)

Type of Facility	Types of Equipment	Diffusion Rate 1986	Diffuseion Rate 1989	Decrease
Kindergartens	Radio Sets	94.7%	69.7%	25.0
Elementary Schools	Radio Sets	98.9	79.2	19.7
Junior High Schools	8-mm Movie Projectors	63.8	50.1	11.9
	Radio Sets	97.6	75.2	22.4
Senior High Schools	8-mm Movie Projectors	77.6	67.0	10.0
	Radio Sets	98.0	82.5	15.5
	Television Sets (B&W)	28.0	15.3	12.7
	Audiotape Recorders (Reel)	61.5	50.8	10.7
Public Halls	Radio Sets	77.5	55.4	22.1
Prefectural Libraries	Radio Sets	59.4	40.3	19.1
	Audiotape Recorders (Reel)	43.8	32.3	11.5
Museums	16-mm Movie Projectors	47.2	36.8	10.4
	8-mm Movie Projectors	27.5	15.0	12.5
	Slide Projectors	76.2	57.7	18.5
	Still Cameras	80.3	64.1	15.6
	Overhead Projectors	36.1	26.1	10.0
	Radio Sets	51.3	35.0	16.3
	Audiotape Recorders (Reel)	26.4	16.2	10.2
	Audiotape Recorders (Cas'te)	69.1	56.6	12.5
	Building-wide P.A. Systems	71.0	58.1	12.9
Youth Nature Centers	Radio Sets	86.3	61.1	25.2
Youth Houses (Resi.dential)	Radio Sets	78.0	61.5	16.2
Youth Houses (Non-res'tial)	Radio Sets	73.0	50.4	22.6
	Audiotape Recorders (Reel)	22.6	12.2	10.4
Children's Culture Centers	16-mm Movie Projectors	85.3	56.9	28.4
	Slide Projectors	70.6	54.9	15.7
	Still Cameras	85.3	58.8	26.5
	Radio Sets	89.7	37.3	52.4
	Television Sets (Color)	83.8	54.9	28.9
	Audiotape Recorders (Cas'te)	89.7	60.8	28.9
	Record Players	77.9	52.9	25.0
	Building-wide P.A. Systems	91.2	60.8	30.4
Women's Education Centers	16-mm Movie Projectors	48.1	32.4	15.7
	Slide Projectors	44.4	27.9	16.5
	Radio Sets	51.9	36.9	15.0
	Audiotape Recorders (Cas'te)	59.3	48.6	10.7
	Record Players	53.7	39.6	14.1
	Building-wide P.A. Systems	57.4	40.5	16.9

tape recorders (cassete) which increased by 2.1 units (9.5 to 11.6).

In the social education facilities, overall, there were no items of audiovisual education equipment for which there was an increase of one or more units.

On the other hand, those items which showed a overall decrease of one or more units are listed in Table 8.

5. Trends in the Providing of New Equipment

The diffusion rates for microcomputers and other new audiovisual ducation equipment as well as for video projectors and video editing equipment, included in this survey for the first time, are summarized below.

Table 7

Comparison with the Results of the 1986 Survey
(Increases in Average Number of Units per Facility)

Type of Facility	Types of Equipment	Diffusion Rate 1986	Diffuseion Rate 1989	Increase
		Units	Units	Units
Elementary School	Videotape Recorders (Cas'te)	2.4	4.0	1.6
	Audiotape Recorders (Cas'te)	9.5	11.6	2.1
Junior High Schools	Television Sets (Color)	10.6	12.3	1.7
	Videotape Recorders (Cas'te)	3.2	5.0	1.8
	Audiotape Recorders (Cas'te)	9.8	11.1	1.3
	Microcomputers	3.0	5.1	2.1
	Group Response Analyzers	1.1	2.9	1.8
	Language Laboratories	1.0	4.1	3.1
Senior High Schools	Videotape Recorders (Cas'te)	4.8	6.9	2.1
	Audiotape Recorders (Cas'te)	14.5	16.6	2.1
	Microcomputers	12.6	24.2	11.6
	Group Response Analyzers	1.2	3.2	2.0
	Language Laboratories	1.1	5.7	4.6
Prefectural Libraries	Videodisk Players	1.3	3.6	2.3
Museums	Microcomputers	6.0	7.3	1.3
Youth Nature Centers	Videotape Recorders (Cas'te)	2.0	4.3	2.3
Women's Education Centers	Compact Disk Recorders	—	1.2	1.2

a. Microcomputers

Table 9 shows by facility the diffusion rate plus the average number of microcomputers for facilities with such equipment.

For schools, the senior high schools had the highest diffusion rate (87%). This was followed by junior high schools with a diffusion rate of 51%. The highest average number of microcomputers per school for schools with microcomputers was again highest at the senior high school (24.2 units). Both the diffusion rates and the average number of units for schools with microcomputers, except for kindergartens, increased at all levels of schooling. For social education facilities, the highest diffusion rate was found for Children's Culture Centers (28%). This was closely followed by Prefectural Libraries (26%). Museums, however, had the highest average number of microcomputers per facility with such equipment (7.3 units).

Table 8

Comparison with the Results of the 1986 Survey
(Decreases in Average Number of Units per Facility)

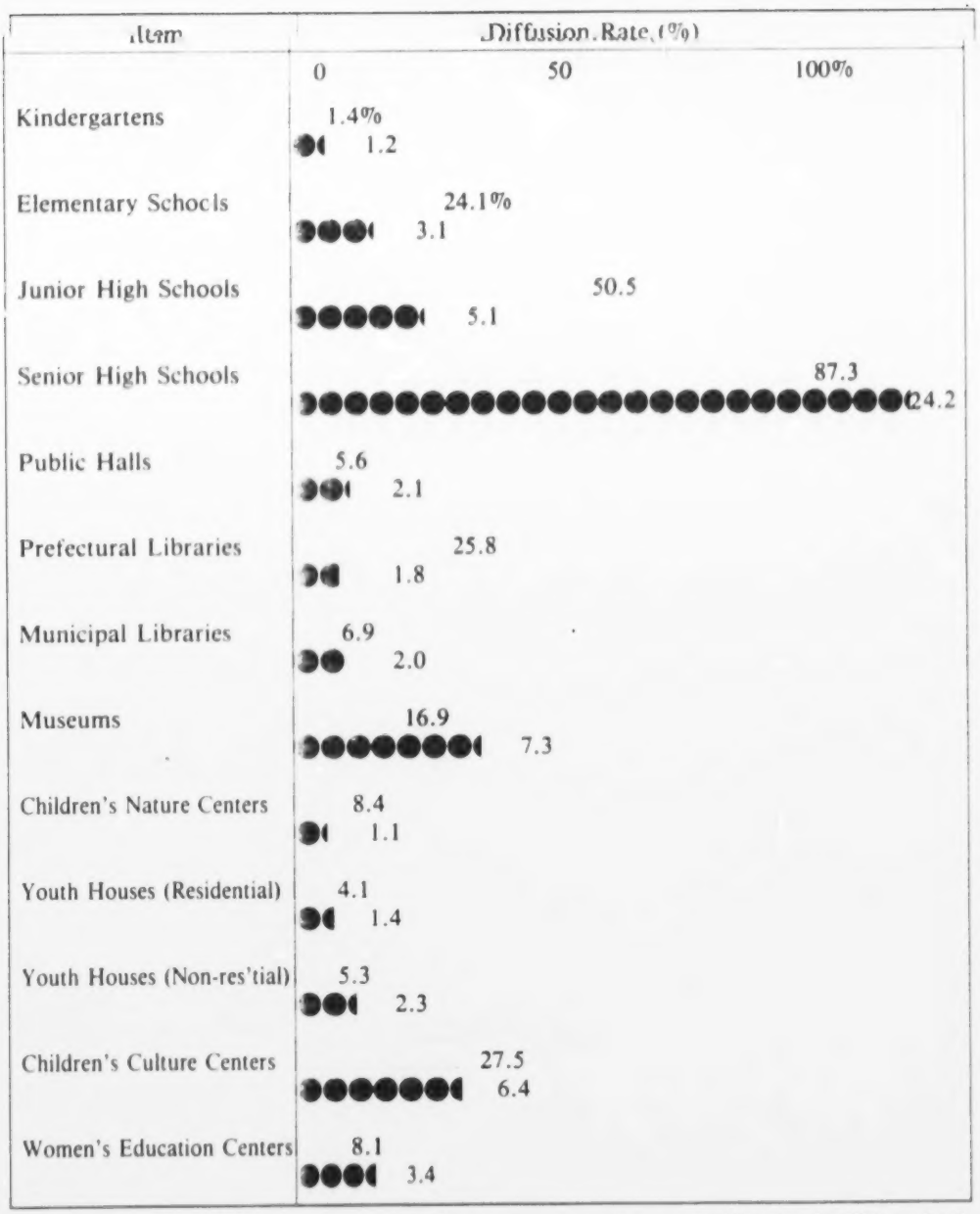
Type of Facility	Types of Equipment	Diffusion Rate 1986	Diffuseion Rate 1989	Decrease
		Units	Units	Units
Kindergartens	Radio Sets	5.1	3.7	1.4
Elementary Schools	Radio Sets	11.3	9.8	1.5
Junior High Schools	Radio Sets	9.4	8.0	1.4
Senior High Schools	Radio Sets	11.1	9.5	1.6
Prefectural Libraries	Television Sets (Color)	4.6	3.4	1.2
	Audiotape Recorders (Open)	2.8	1.5	1.3
Youth Culture Centers	Videodisk Players	6.8	1.1	5.7
Women's Education Centers	Radio Sets	3.0	2.0	1.0

Table 9

Diffusion of Microcomputers

Type of Facility	Diffusion Rates	Average Number of Items for Facilities with Item
	%	Units
Kindergartens	1.4	1.2
Elementary Schools	24.1	3.1
Junior High Schools	50.5	5.1
Senior High Schools	87.3	24.2
Public Halls	5.6	2.1
Prefectural Libraries	25.8	1.8
Municipal Libraries	6.9	2.0
Museums	16.9	7.3
Children's Nature Centers	8.4	1.1
Youth Houses (Residential)	4.1	1.4
Youth Houses (Non-res'tial)	5.3	2.3
Children's Culture Centers	27.5	6.4
Women's Education Centers	8.1	3.4

Figure 3
Microcomputer Diffusion



Note: Bars show diffusion rates, dots the average quantity per facility for facilities which have such equipment (1 dot = 1 unit).

Figure 4
Distribution of Microcomputer Availability
(Junior High Schools)

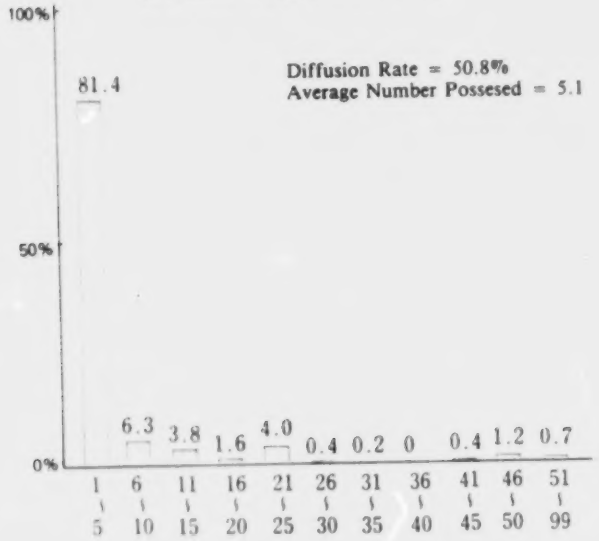
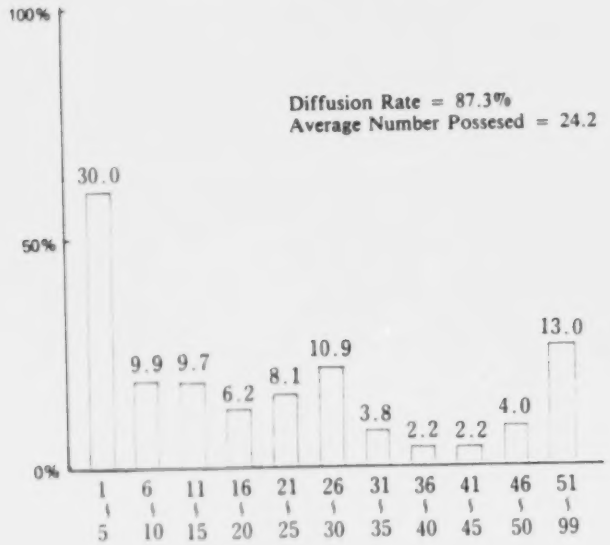


Figure 4 (Cont'd)
Distribution of Microcomputer Availability
(Senior High Schools)



b. Compact Disk and Videodisk Players

Compact disk and videodisk players have been included in the Ministry of Education surveys since 1986. For the 1986 survey it was found that diffusion rates for both items were well below 10%. The current survey reveals that both diffusion rates and the average number of units possessed by facilities with such equipment has increased a great deal. Tables 10 and 11 show these results.

Table 10

Diffusion of Compact Disk Players

Type of Facility	Diffusion Rates	Average Number of Items for Facilities with Item
	%	Units
Kindergartens	13.9	1.4
Elementary Schools	38.2	1.6
Junior High Schools	50.8	1.4
Senior High Schools	58.1	1.4
Public Halls	11.9	1.2
Prefectural Libraries	22.6	2.4
Municipal Libraries	21.6	2.4
Museums	9.4	1.5
Children's Nature Centers	11.1	1.4
Youth Houses (Residential)	13.6	1.3
Youth Houses (Non-res'tial)	13.7	1.6
Children's Culture Centers	11.8	1.0
Women's Education Centers	11.7	1.2

c. Diffusion of Video Projectors and Video Editing Equipment

Video projectors and video editing equipment were newly added as of this survey. While, overall, diffusion rates are still very low, it was found that at the senior high school level diffusion rates were relatively high in comparison with the other types of facilities. At the senior high school level, the diffusion rate for video projectors is already 34% and that for video editing equipment is 25%. Also, it was found that, for all of the various types of schools and facilities, the diffusion rates for video projectors were higher than those for video editing equipment.

Table 11

Diffusion of Videodsk Players

Type of Facility	Diffusion Rates	Average Number of Items for Facilities with Item
	%	Units
Kindergartens	4.9	1.2
Elementary Schools	11.8	1.5
Junior High Schools	20.5	1.4
Senior High Schools	23.8	1.5
Public Halls	6.6	1.3
Prefectural Libraries	12.9	3.6
Municipal Libraries	10.3	2.9
Museums	12.6	4.9
Children's Nature Centers	4.7	1.1
Youth Houses (Residential)	7.2	1.3
Youth Houses (Non-res'tial)	6.1	1.1
Children's Culture Centers	13.7	1.1
Women's Education Centers	6.3	1.3

B. Utilization

1. Major Findings

a. Teachers

The types of audiovisual education equipment most commonly used by teachers in the scholls include audiotape recorders and television sets (off-air viewing), but in social education facilities they are 16-mm movie projectors and audiotape recorders. Compared with the previous survey, the utilization of videotape recorders, video cameras and microcomputers has increased greatly, with the highest utilization rates being found for videotape recorders at the kindergarten level and for microcomputers in junior high schools and prefectural libraries.

b. Degree of Utilization

Some audiovisual education equipment is used quite frequently; some is used less often. The most frequently used items include audiotape recorders, record players, television sets (off-air viewing) and microcomputers.

Compared with the previous survey, the frequency of microcomputer utilization increased great deal. In the schools, the microcomputer is used more frequently by senior high schools, junior high schools and elementary schools in that order; the higher the grade level the higher the frequency of microcomputer use. At the senior high school level, 67.4% of the schools using microcomputers used one twice a week or more. This is 23 percentage points higher than the results found in the previous survey. For social education facilities, microcomputer utilization was high for public halls and municipal libraries. For public halls, 45.3% of those using microcomputers used one twice a week or more. This is 18.5 percentage points higher than the results of the previous survey.

c. The school Curriculum and Utilization

In the schools, the frequency of utilization depends greatly upon which type of audiovisual education equipment is involved. The following lists the most commonly used types of equipment and in what subjects they are most frequenly utilized.

1) 16-mm Movie Projectors: Special activities in elementary, and junior and senior high schools.

2) Slide Projectors: Elementary, and junior and senior high school social studies.

3) Overhead Projectors: Arithmetic in elementary schools and science in junior and senior high schools.

4) Audiotape Recorders: Music classes at the elementary school level and in foreign languages in the junior and senior high schools.

5) Record Players: Elementary, and junior and senior high school music classs.

6) Television Sets (Off-air Broadcasts): Elementary, and junior and senior high school science classes.

7) Videotape Recorders: Social studies in the elementary schools, science in the junior high schools and again social studies in the senior high schools.

8) Video Cameras: Special activities in elementary, and junior and senior high schools.

9) Group Response Analyzers: Mathematics at the elementary school level, foreign languages at the junior and senior high schol levels.

10) Microcomputers: Used in "other" in elementary and junior high schools; in commerce in senior high schools.

11) Language Laboratories: Foreign languages in junior and senior high schools.

12) Music Laboratories: Music in elementary, and junior and senior high schools.

d. Participation in Study Seminars

Generally speaking, the ratio of teacher participation in study seminars on audiovisual education or microcomputers is higher in the schools than it is in social education faclities; the highest levels of participation in both types of seminars being at the senior high school level.

Compared with the previous survey, participation in audiovisual education study seminars has decresed while that in microcomputer study seminars has increased. This trend is more clearly visible among school teachers than it is among social education facility staff and faculty.

e. Local Production of Audiovisual Materials

In general, the proportion of institutions preparing their own audiovisual education materials is higher in schools than it is in social education facilities. Within this, the proportion or ratio is higher in elementary and in senior high schools than it is elsewhere.

Compared with the previous survey, there has been an decrease in the local production of slides, overhead projector transparencies, and musical materials, but an increase in video materials and in computer software.

2. Teacher Utilization

In order to understand the actual situation behind equipment utilization, in the 1986 survey each of the schools and social education facilities was asked to state the proportion of teachers who had used any of the various audiovisual educational equipment being surveyed at least once in their classes (social education courses and lectures).

Generally speaking, the results showed that the most commonly used types of audiovisual education equipment utilized by teachers in the schools were audiotape recorders and television sets (off-air viewing) while in social education facilities the most commonly used type of equipment was 16-mm movie projectors. Further, it was shown that the proportion of teachers using various types of audiovisual education equipment in each type of school facility was influenced by how readily available the equipment was. For many types of audiovisual education equipment the more available it was the greater the degree of teacher utilization.

The following is a summary of the situation regarding teacher utilization in the schools and in the major types of social education facilities included in this surey.

a. Elementary Schools

Audiovisual education equipment most frequently used by elementary school teachers includes television sets (off-air viewing), audiotape recorders, overhead projectors and so on. The proportion of teachers using record players and videotape recorders is also relatively high. The results of the survey on diffusion indicated that all of these types of equipment have relative high difusion rates.

Among these various types of equipment, the percentage of schools in which audiotape and videotape recorders were used by all or nearly all of the teachers was relatively high. On the other hand, the percentage of schools wherein very few of the teachers used overhead projectors, opaque projectors and record players was also relatively high.

b. Junior High Schools

Types of audiovisual education equipment used by a relatively high percentage of teachers included audiotape recorders and overhead projectors. However, the percentage of schools wherein all of the teachers used audiovisual education equipment was comparatively low in comparison with kindergartens and elementary schools. The next most commonly used types of equipment were television sets (off-air viewing) and 16-mm movie projectors. Also, among the various types of audiovisual education equipment included in the survey, utilization of videotape recorders and microcomputers has become relatively higher.

The fact that the utilization of television sets (off-air viewing) is relatively low in comparison to diffusion rates is thought to be due, at least in part, to the growing number of teachers who are using videotape recorders to record programs in advance.

c. Senior High Schools

Audiovisual education equipment frequently used by senior high school teachers include 16-mm movie projectors, videotape recorders, and microcomputers. But, just as at the junior high school level, in comparison with kindergartens and elementary schools, the percentage of schools

wherein all of the teachers are using audiovisual education equipment is relatively low. The percentage of teachers using microcomputers is higher than is that of teachers using other types of equipment. At the senior high school level, 35.3% of the schools reported that from 1 to 19% of their teachers were using microcomputers, the highest such figures found in this survey. Further, another 18.8% of the schools said that from 20 to 39% of their teachers were using microcomputers and an additional 10.5% reported that from 40 to 59% of their teachers were also using microcomputers.

Compared to the diffusion rates found in the first part of the survey, actual utilization of television sets (off-air viewing) was relatively low. It is felt that, just as with the junior high schools, the reason for this is that recorded use of programs is becoming rather common.

d. Public Halls

The most commonly used type of audiovisual education equipment used in public halls is the 16-mm movie projector. The survey showed that 15.7% of the public halls stated that everyone on their staff used 16-mm projectors while a total of 55.4% of the public halls reported that 40% or more of their staff used them.

Other relatively extensively used types of equipment included audiotape recorders, record players and videotape recorders.

For 16-mm movie projectors, the utilization rates were higher than were the diffusion rates found in the first part of the survey, which indicates that at least in some instances utilization may be based upon borrowing the equipment from outside sources.

3. Degree of Utilization

One question included on the survey given to each of the institutions asked the degree of utilization of each type of audiovisual education equipment per teacher/staff member in terms of (1) several times a year, (2) once or twice a month, (3) once a week, or (4) twice or more each week.

The results showed that there are some types of equipment which are used frequently and others which are not. Frequently used items included audiotape recorders, record players, television sets (off-air viewing) and microcomputers.

The frequency of utilization for those institutions using microcomputers was much higher than had been found for the previous, 1986 survey. Institutions with high frequencies of utilization included senior high schools, junior high schools and elementary schools, the higher the grade level the greater the degree of utilization. For example, at the senior high school level, 67.4% of the utilizing schools replied that microcomputers were used twice or more a week, a 23 percentage point increase when compaed with the results of the previous survey. For social education facilities, utilization rates were high for public halls and municipal libraries. For public halls, for instance, 45.3% of the utilizing public halls replied that usage was two or more times a week. This is 18.5 percentage points higher than the previous survey.

The following outlines major facility utilization rates.

a. Elementary Schools

The most frequently utilized type of audiovisual education equipment found in the elementary schools is television sets (off-air viewing); teachers in 48.7% of the utilizing schools are using this media approximately twice a week. other types of audiovisual education equipment with high frequencies of utilization include audiotape recorders, record players and overhead projectors. Finally, although the number of institutions using microcomputers and music laboratories, the utilization frequency for schools which do use them is rather high.

b. Junior High Schools

The most frequenly used item of audiovisual education equipment at the junior high school level is audiotape recorders, followed by overhead projectors and record players. Also, even for those types of equipment items such as microcomputers, music laboratories and language labora-

tories which overall are used relatively less, the frequency of utilization in those facilities which are using them is rather high.

c. Senior High Schools

At the senior high school level the most frequently utilized types of audiovisual education equipment include microcomputers and audiotape recorders. The frequency of use of language laboratories and videotape recorders is also growing.

d. Public Halls

The most frequently utilized types of audiovisual education equipment in public halls, microcomputers and music laboratories, are actually used by relatively few facilities. However, comparatively speaking, the use of television sets (off-air viewing), audiotape recorders and record players is on the increase.

4. Utilization by Subject Matter or Courses

The following is a list of audiovisual education equipment and the courses in which they are most commonly utilized, listed by types of equipment.

1) 16-mm Movie Projectors: Special Activities in elementary and junior and senior high schools.

2) Slide Projectors: Social studies in elementary and junior and senior high schools.

3) Overhead Projectors: Arithmetic in elementary schools; Science in junior and senior high schools.

4) Audiotape Recorders: Music in elementary schools; Foreign Languages in junior and senior high schools.

5) Record Players: Music in elementary and junior and senior high schools.

6) Television Sets (Off-air viewing): Science in elementary and junior and senior high schools.

7) Videotape Recorders: Social studies in elementary schools.: Science in junior high schools; Social Studies in senior high schools.

8) Video Cameras: Special Activities in elementary and junior and senior high schools.

9) Group Response Analyzers: Arithmetic in elementary schools: Foreign Languages in junior and senior high schools.

10) Microcomputers: "Others" in elementary and junior high schools; Commerce in senior high schools.

11) Language Laboratories: Foreign Languages in junior and senior high schools.

2) Music Laboratories: Music in elementary and junior and senior high schools.

5. Participation in Training Courses

The survey included a section on the percentage of teachers who had participated in training courses or study seminars related to audiovisual education (including educational broadcasting, educational technology) or computers. The results showed that, in comparison to the staff of social edcation facilities, a higher proportion of school teachers had participated in such courses. Participation in both audiovisual education courses as well as in computer-related courses were highest at the senior high school level.

Compared to the previous, 1986 survey, participation in audiovisual education training courses decreased slightly but participation in computer-related courses increased. This trend was more evident for the schools than it was for social education facilities.

The following outlines the results of the survey on participation in training courses for the more important types of institutions. (Shaded bars and figures in parenthesis are from the 1986 survey.)

a. Elementary Schools

Figure 6 outlines participation in training courses at the elementary school level. Overall participation in audiovisual education trainin courses was higher at this level than at any other.

Figure 6
Participation in Training Courses
(Elementary Schools)

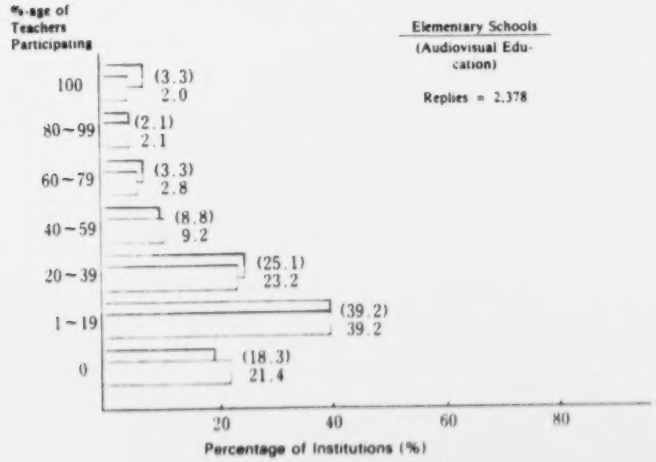
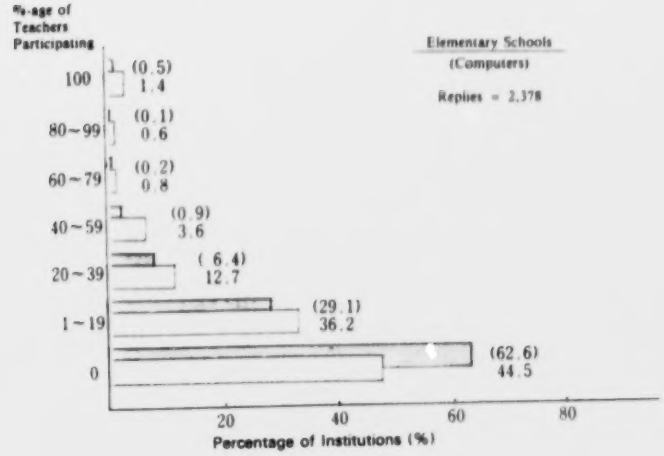


Figure 6 (Cont'd)
Participation in Training Courses
(Elementary Schools)



b. Junior High Schools

Figure 7 shows participation in training courses at the junior high school level. The proportion participating in computer-related training courses is higher at this level of schooling.

Figure 7
Participation in Training Courses
(Junior High Schools)

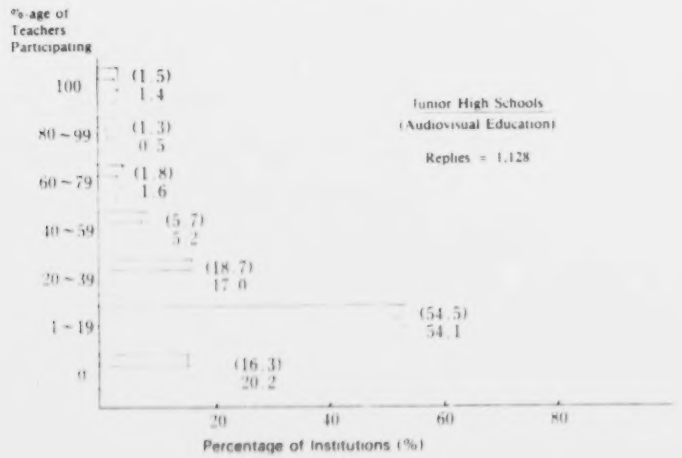
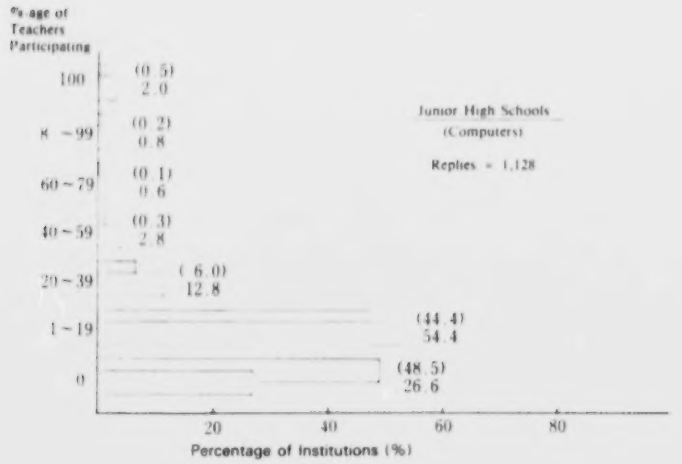


Figure 7 (Cont'd)
Participation in Training Courses
(Junior High Schools)



c. Senior Hih Schools

Fiure 8 shows participation in training courses at the senior high school level. The proportion participating in computer-related training courses was found to be the highest of all.

Figure 8
Participation in Training Courses
(Senior High Schools)

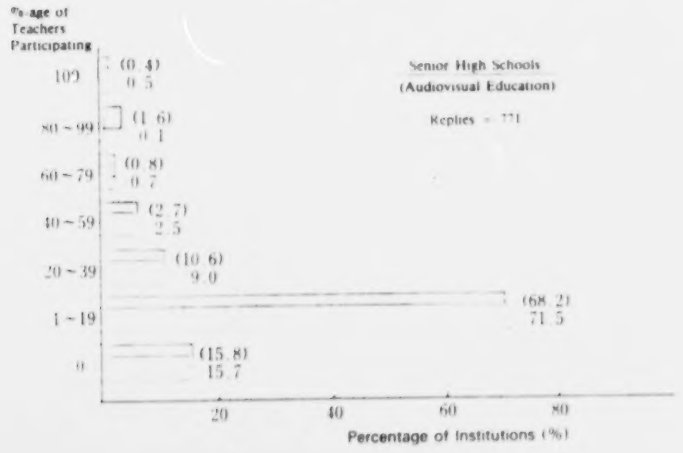
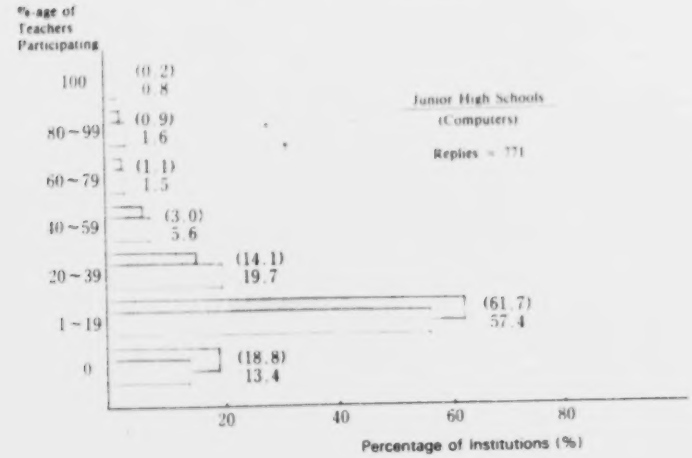


Figure 8 (Cont'd)
Participation in Training Courses
(Junior High Schools)



d. Public Halls

Figure 9 shows participation in training courses by public hall faculty and staff. The proportion participating in audiovisual education trainin courses was higher for public halls than for any other type of social education facility.

Figure 9
Participation in Training Courses
(Public Halls)

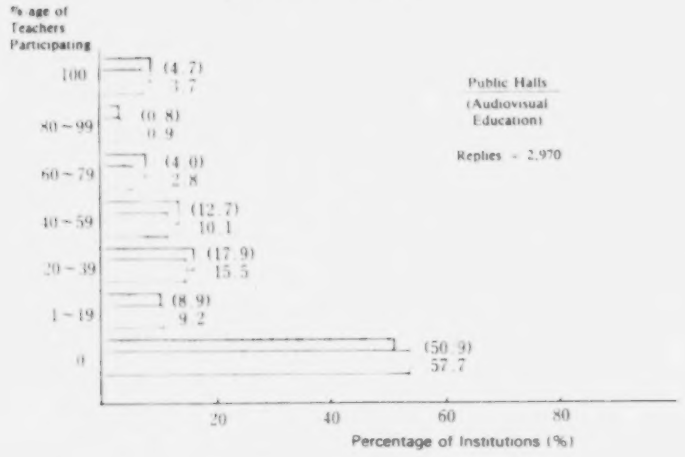
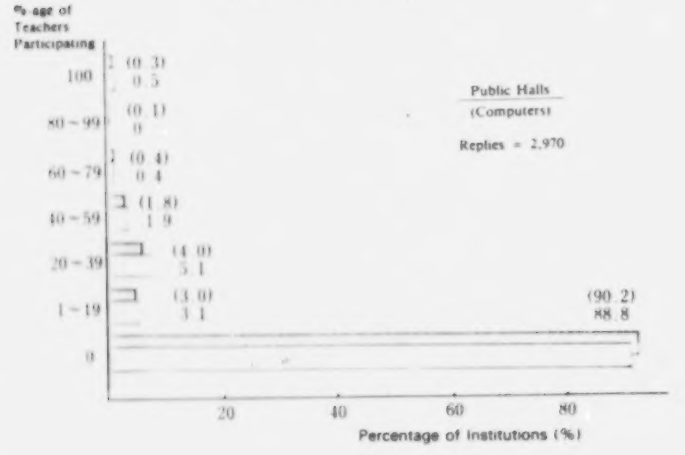


Figure 9 (Cont'd)
Participation in Training Courses
(Public Halls)



6. Local-production of Instruction Materials

The schools and social education facilities surveyed were asked about the quantity of audiovisual education materials produced (both individually or by audiovisual centers or audiovisual libraries) during 1988 fiscal year. The results are outlined below.

a. The percentage of facilities which prepared at least one locally-produced item for any of the five types of audiovisual education media or equipment listed below are as shown in Table 12.

Overall, a higher percentage of schools over social education facilities were involved in local production. In schools, the most frequently locally-produced items were overhead projector transparencies; for social education facilities the most frequently localy-produced items were videotape instructional materials.

The following categories were over 50%: elementary schools, overhead projector transparencies (86.4%); junior high schools, overhead projector transparencies (81.7%); elementary schools, videotaped materials (68.8%); senior high schools, vedeotaped materials (62.5%), junior high schools, videotaped materials (59.8%); senior high schools, overhead projector transparencies (54.3%); elementary schools, audiotaped materials (52.9%); and senior high schools, computer software (51.2%).

Overall, compared with the previous survey, for both schools and social education facilities, local production of materials for slide projectors, overhead projectors and audiotape recorders decreased while that for videotape recorders and computer software increased compared.

Institutions reporting high ratios of local production among social education facilities include Children's Nature Centers — slides (25.4%), overhead projector transparencies (24.9%), and videotapes (22.7%). This is followed by Museums — videotapes (20.3%) and slides (19.7%).

b. Results on the quantities of locally-produced instructional materials by institution show that, in general, schools are higher than social education facilities and that on the average more overhead projector

transparencies are produced than are any other item. However, compared with the previous survey the quantities of slide, overhead projector and audio materials produced by the schools decreased while that of videotape materials and computer software increased.

Table 12
Proportion of Institutions Involved in
Local Audiovisual Material Preparation (%)

Institution	Types of Instructional Materials					Number of Replies
	Slide Proj. Materials	O'head Proj. T'parencies	Videotapes	Audiotapes	Computer Software	
Kindergartens	20.3 (19.7)	35.6 (40.5)	21.4 (14.4)	17.2 (17.4)	0.2 (0.2)	621
Elementary Schools	44.8 (52.0)	86.4 (90.7)	68.8 (64.7)	52.9 (53.9)	9.7 (5.2)	2,378
Junior High Schools	38.7 (44.6)	81.7 (86.8)	59.8 (59.0)	44.7 (44.7)	22.3 (11.8)	1,128
Senior High Schools	42.5 (52.8)	54.3 (69.2)	62.5 (65.9)	35.3 (37.9)	51.2 (50.7)	771
Public Halls	8.9 (12.1)	7.8 (11.3)	18.3 (21.6)	8.2 (9.5)	0.7 (0.6)	2,970
Prefectural Libraries	9.8 (11.1)	11.5 (14.3)	4.9 (7.9)	1.6 (11.1)	— (1.6)	61
Municipal Libraries	2.7 (3.0)	2.2 (3.4)	3.8 (4.5)	4.5 (4.2)	0.4 (0.1)	1,488
Museums	19.7 (32.3)	6.3 (9.7)	20.3 (22.3)	7.8 (9.3)	4.8 (4.1)	463
Children's Nature Centers	25.4 (26.8)	24.9 (29.5)	22.7 (20.2)	23.5 (15.3)	0.5 (0.5)	185
Youth Houses (Residential)	10.6 (15.2)	17.1 (24.4)	18.0 (16.6)	16.1 (12.9)	— (0.9)	217
Youth Houses (Non-res'tial)	2.4 (6.1)	3.9 (6.1)	7.9 (11.4)	3.1 (4.4)	0.8 (0.9)	127
Children's Culture Centers	19.6 (19.1)	11.8 (13.2)	11.8 (8.8)	17.6 (10.3)	7.8 (5.9)	51
Women's Education Centers	2.7 (3.7)	0.9 (5.6)	5.5 (9.3)	1.8 (1.9)	— (—)	110

Figures in parenthesis are for 1986.